COUNTDOWN

Calling time on Neglected Tropical Diseases

The Ebola outbreak and the wider health system: understanding impact and exploring the way forward in Liberia through the case study of NTDs

Stakeholder Consultation Meeting Report

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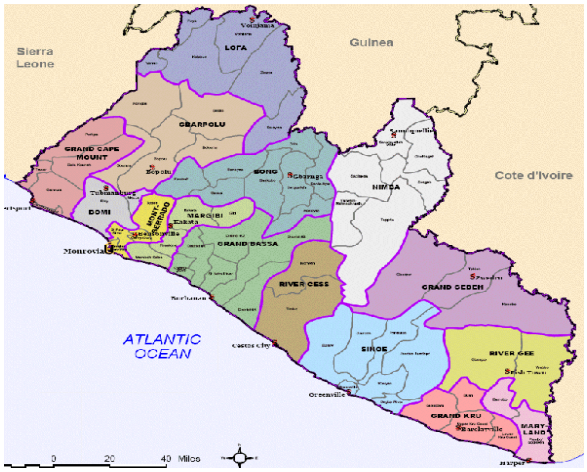
1. Introduction

1.1 Liberia background

Liberia is located on the West Coast of Africa. It is bordered by Sierra Leone on the west, Ivory Coast on the east, on the north by Guinea and the south by the Atlantic Ocean. Liberia is divided into fifteen political subdivisions called counties. According to the 2008 Liberia Population and Housing Census the country has a population of 3.9 million and a growth rate of 2.1% per annum.



The Country has 350 miles of Atlantic front, with three distinct topographical areas: (1) a flat coastal plain of some 10 to 50 miles, with creeks, lagoons, and mangrove swamp; (2) an area of broken forested hills with altitudes from 600 to 1200ft, which covers most of the Country; (3) an area of mountains in the northern highlands, with elevations reaching 4,540 feet in the Nimba Mountains and 4,528 ft. in Wutivi Mountains. There are many rivers and lakes with the major ones being St. John, St. Paul, Mano, Cestos, Farmington, and Lofa rivers and Lakes Piso and Shepherd.

In 2003, Liberia emerged from 14 years of conflict and had its first democratic election in 2005. The recovery process is ongoing in Liberia, however 85% of the population currently lives below the international poverty line. In 2014, Liberia experienced the beginning of the Ebola epidemic, which at the time of this stakeholder meeting was still ongoing. It is thought that there were at least 10675 suspected, probable and confirmed cases of Ebola with a minimum of 4809 deaths. This put great strain on an already weak health system including the deaths of over 199 health personnel to the Ebola virus. The majority of routine health activities stopped during the Ebola epidemic and trust between communities and the health system broke down, medicines expired and systems for regular monitoring and evaluation of disease programmes broke down.

1.2 Rationale for the Consultation Meetings

The Ebola outbreak in Liberia affected over 300 health professionals and over 190 of its professional health workforce died of the disease. Trust between health workers and communities broke down and resources were diverted from routine health systems activities to control the outbreak. This caused a decline in services available at the various levels of the health system as well as changes in the disease landscape and increased vulnerabilities in the social determinants of health for many individuals. As the Ministry of Health (MoH) start to rebuild the health system, it is critical that the full impact of the outbreak at all levels of the health system is understood from the perspective of all stakeholders. In order to strengthen the

future resilience of the health system, there should also be a specific focus on research for strengthening health systems as the rebuilding efforts move forward.

Funded through the Health Systems Global Thematic Working Group on Fragile and Conflict Affected Sates, in collaboration with the Wellcome Trust; the Ministry of Health in partnership with the Liverpool School of Tropical Medicine, hosted two stakeholder meetings to explore the impact of the Ebola outbreak on the health system in Liberia. The meetings also had a specific focus on developing research priorities that will assist in providing context relevant evidence to strengthen existing systems as they are rebuilt. Within the stakeholder meetings, the case study of the Neglected Tropical Disease (NTD) programme was used. This provided a unique opportunity to gain deeper understanding of the impact on vertical programmes when health systems collapse as well as exploring how they can be used to strengthen the system as a whole as it is rebuilt.

The stakeholder consultation meetings were held at two different levels; national and county. The county level meeting took place first and was designed to engage the views of frontline health workers including; county health officers; community health department directors; general community health volunteers (gCHVs) and community drug distributors (CDDs). We also wanted to understand the views of community representatives such as; community leaders, women's and youth group leaders. Conducting the county level meeting first meant that findings could feed into the national level meeting to ensure views of those at lower levels of the health system were represented. The national level meeting was designed to engage the views of representatives of education and training institutes, representatives of implementing and funding partners and representatives of key ministries involved in the delivery of health interventions.

1.3. Objectives of the Stakeholders Consultation Meetings

- Understand the impact of the Ebola outbreak on the different levels of the health system; national, county and community
- Understand the impact of the Ebola outbreak on a vertical disease programme, specifically the Neglected Tropical Disease (NTD) programme
- Explore what should be prioritized as the health system is rebuilt within Liberia
- Explore how vertical disease programmes could be used to strengthen the wider health system as it resumes activity
- Explore what the future health systems research agenda should look like in Liberia

2. Stakeholder Engagement and Meeting Methodology

Meetings were coordinated by the Neglected Tropical Disease Programme in the Ministry of Health (MoH). Stakeholder engagement started one month before the meeting was scheduled to take place at both national and county level.

The county level meeting took place in Buchanan, Grand Bassa County. This county was selected as the NTD programme had strong connections to communities in this region. They are also known for their effective community led mobilisation and engagement with the health system. It was felt that the communities in this county would have large contributions to offer to the questions being raised based on their own experiences. In addition, due to challenging infrastructures due to the rainy season and ongoing Ebola epidemic, this county was safely accessible for participants. To engage participants at the county level delegates from the NTD team at the Ministry of Health in Monrovia explained the aims and objectives of the meeting to the county health team. The county health department then sent letters of invitation or approached relevant individuals to attend the county level meetings. The meeting took place on the 28th October 2015 in the Grand Bassa County Health Team Conference Room and was attended by 22 people including; community members, religious leaders, community health volunteers and other frontline health workers.

At national level, a letter of invitation was sent to all stakeholders who participated in the meeting. Follow up was conducted with some of these stakeholders on a one to one basis to explain the purpose of the meeting and to ensure their participation. The national level meeting was held on November 11th 2015 at the Ebola Operation Center Conference Room in Monrovia. The meeting was attended by 19 people including representatives from; Research Institutions; University of Liberia; Non-Governmental Organisations (NGOs) working on NTDs and other diseases; Liberia Medical and Dental Council; Ministry of Education and several divisions of the Ministry of Health.

For full participant lists for both meetings please see Annex One.

At both the national and county level the meetings took a similar format (agendas for each meeting can be found in Annex two). The county level meeting began with a series of presentations that detailed the purpose of the meeting and introduced key topics such as; the impact of Ebola on community health programmes; and community perceptions of the health system following Ebola. Presentations were provided by county health teams and community leaders to ensure the views of all levels of the health system were presented. The NTD programme also provided an overview of their activities and how they had been influence by Ebola. Meeting participants were then split into smaller breakout groups to focus on key questions as shown in Box 1. Participants were asked to think about these questions in relation to each of the World Health Organisation (WHO) health system building blocks as shown in Box

2. Following the breakout groups, participants were then brought back together in a plenary session during which each group fed back on their discussions. Participants were then encouraged to discuss the issues raised before issues for prioritisation and agenda setting were identified.

The national level meeting also began with a series of presentations to introduce key issues to discuss. These included: an overview of the NTD programme with a broader focus on the impact of Ebola on preventative health programmes and the wider health system; and an exploration of the way forward for health research in Liberia following the outbreak. A summary of discussions at the county level were also provided. Presentations were again followed by breakout groups to discuss key questions outlined in Box 1 in line with the health systems building blocks detailed in Box 2. Participants who accepted the invitation to attend the meeting had previously been provided with the content shown in Box 1 and Box 2 to allow them to reflect on these issues in advance of the meeting. Feedback from group work and issue prioritisation took place in the same way as at the county level meeting.

Within the county and national meeting during the presentation section, an interview with Dr Haja Wurie who is based at the College of Medicine and Allied Health Sciences in Sierra Leone was played. Within the interview Haja reflects on the impact of the Ebola epidemic on the health system in Sierra Leonne. The idea in using this clip was to encourage cross-country lesson learning and reflection. A recording of the video is located at: https://www.youtube.com/watch?v=JRNNcE8rODo&feature=youtu.be and the associated blog can be found here: https://countdownonntds.wordpress.com/2015/09/11/no-more-room-for-excuses-building-the-health-system-in-sierra-leone-after-ebola/ or in Annex 3.

Twitter was used during both meetings using the @NTDCOUNTDOWN handle.

The following sections of the meeting report detail key discussion points in relation to each of the health systems building blocks. Section 5 looks at areas from discussions that were prioritised for health systems research at the national and county level.

Box 1: Key Questions Addressed During the Consultation

- What is the current status of the Liberian health system?
- What is the current status of the NTD control programme?
- What are the current strengths and weaknesses of the NTD programme?
- What are the key priority areas for improvement for NTD control and the wider health system?
- What research questions could be addressed to help strengthen the health system and address bottlenecks?

Box 2: WHO Health System Building Blocks in which to frame questions

- **Leadership and Governance:** this building block focuses on how the health system is managed and planned for. It looks at things like what strategic policies and frameworks exist and how the government manages the health of its population. It also considers how the public, private and voluntary sector are managed and work together in relation to health.
- **Health Care Financing:** this building block looks at how resources are allocated and used within the health system. Health financing is a critical part of this building block and considers sources of funding (e.g. donor/user fees/insurance etc.) and how this influences different sectors of the population.
- **Health Workforce:** this building block considers how the health workforce is managed and motivated. Its focus should be on ensuring that the workforce is sufficient, competent, responsive and adequately supported to meet population needs.
- **Medical products/technologies:** this building block considers access to essential medicines, their availability, affordability, quality and usage by both patients and health providers. Specifically, it is focused on equity in access to essential medicines as a human right.
- **Information and research:** this building block considers if there are systems in place to produce, analyse and disseminate reliable information on health determinants, health systems performance and health status.
- **Service delivery:** this building block focuses on services that diagnose, treat and prevent disease. It can include things such as health promotion and services that have direct or in-direct contact with patients. Specifically, it considers how inputs such as money, staff, equipment, and drugs are combined to allow the delivery of health interventions. Equity in health outcomes is the ultimate aim.

3. County Meeting Summary

Leadership and Governance:

During discussions participants felt that it was critical that communities and counties were involved in the planning for the restoration of health services. It was felt that this would improve community engagement with the health system and help in the understanding as to how communities can support the re-development of the health system.

Being caught unawares by the Ebola outbreak was noted in discussions with one presentation describing the health system in Liberia as 'naked' and emphasizing the continuing reliance on a weak system. In planning for the future participants felt that it was critical to prioritize health research into systems strengthening to increase responsiveness of the health system.

The critical importance that general community health volunteers (gCHVs) played in surveillance during the Ebola outbreak was noted. As a result, participants believed that there needed to be improved strategy around the use of gCHVs, with suggestion that they should be seen as another cadre of the health workforce or if this was not possible then better frameworks for incentive provision should be developed. The case study of the NTD programme also emphasised the resilience of gCHVs who often act as community drug distributors during their activities, however they were often described as being overburdened and pulled in the direction of the many (competing) disease programmes. In this instance better strategies at the national level to manage and standardise the gCHVs would likely be beneficial.

Health Care Financing:

There was concern amongst some participants that the Ebola outbreak had diverted attention and resources from donors and funding agencies (on which the health system in Liberia is reliant) away from other diseases and health systems activities. Whilst it was appreciated that this was necessary to control and respond to the outbreak, both health providers and community members thought it was critical that resource allocation should be rebalanced moving forward.

Health Workforce:

Participants felt that the Ebola outbreak exposed areas of weakness in health workforce training, with many health staff being unaware of the disease and how to recognize and manage it. One presenter felt this emphasized the need for continued professional development of the health workforce as well as improved basic training. Although participants felt that the Ebola outbreak had provided a lot of learning to health staff around hygiene and screening procedures, allowing them to become more equipped to manage communicable disease in the future, further more systematic training based on needs assessment should be developed.

Similarly, to what was observed in Northern Uganda, general community health volunteers (gCHVs) played a large role in controlling the Ebola outbreak, particularly in terms of

surveillance at the community level. Participants felt that the way that gCHVs were managed during the outbreak, with focused supervision from county health teams that was more regular than prior to the outbreak, allowed for increased community coverage. One challenge as Liberia moves past the Ebola outbreak will be to ensure positive advances made during the outbreak such as increased supervision that reflect their full range of tasks are maintained. Prior to the Ebola outbreak the NTD programme had increased the number of community drug distributors that were trained to assist in the delivery of their programme. As the programme is re-started and these community drug distributors regain confidence to re-enter communities ensuring they are adequately re-trained and supervised will be critical.

At the county level, participants felt that there was an ongoing overburdening of disease focal points (e.g. county NTD focal point) and other health staff that was exacerbated during the Ebola outbreak. It was felt that this is likely to continue due to the high numbers of health staff lost to Ebola. The overburdening of health staff has been seen to impact upon staff motivation and retention at the county level. Some loss of staff was thought to be due to a lack of payment due to financial strain on the health system. Strategies to reduce overburdening of staff are required to increase motivation and retention of staff and ensure fair and timely remuneration.

Medical products/technologies:

The Ebola outbreak put a strain on resources and participants observed frequent stock-outs of essential medicine at the village health centre level. Participants thought this suggested a need for improved supply chain mechanisms that are more resilient in times of crisis. Stock-outs were thought to be gradually decreasing with the most common drugs now regularly being sent; however, a 100% supply of essential medicines is currently not in place.

Initially Ebola exposed the health system as not having the necessary equipment to manage communicable disease outbreaks. However, participants identified a benefit of the Ebola outbreak to be the provision of better equipment to manage communicable disease epidemics. Protective clothing and the development of triage and isolation points were referred to. If provision of such technologies is retained this is likely to ensure the maintenance of better systems to manage communicable diseases.

Information and Research:

Due to increased rates of mortality during the Ebola outbreak health personnel felt that current data regarding populations that their facilities are serving was lacking. They felt a key priority post-Ebola was to update facility catchment information as well as to have more detailed statistics regarding the population and disease profile within these catchment areas.

gCHVs, explained that the data collection ledgers that they are required to record information in at the community level are over complicated and difficult to use. The ledgers they were talking about were specifically related to the NTD programme however they believed this to also be the case for other vertical disease programmes. In moving forward, they felt that simpler more streamlined documents could be produced that were consistent across the health system and programmes.

Service Delivery:

Service delivery was the health system building block that participants felt the Ebola epidemic had impacted on most extensively. Specifically, a decline in uptake of services was noted. This was perceived to be due to a two way break down in trust between communities and the health workforce or health system. At the community level, people were afraid to go to health facilities due to fear of contracting Ebola and when people did access services, drugs were lacking and the majority of personnel had been diverted to manage the crisis. When interventions were taken to the communities, community members thought that health personnel were 'bringing Ebola' so would chase them out of the community. Health workers, also lacked trust in the community through fear that individuals attending the health centre would 'bring' Ebola, that in many cases they were not equipped to deal with. Participants identified this lack of trust as creating a downward spiral of services resulting in morbidity and mortality related to other diseases such as Malaria, Tuberculosis (TB) etc. Lack of service provision and utilisation also resulted in a reduction in the coverage of preventative activities such as immunisation coverage or in the case of the NTD programme, Mass Drug Administration.

Through the case study of the NTD programme, challenges for programmes that focus on service delivery at the community level were identified. Some of these limitations to service delivery were present pre-Ebola, however they were either highlighted or further exacerbated during the epidemic. Logistical challenges in accessing communities that are particularly remote and sprawling were identified as problematic to community level interventions. gCHVs found moving through these areas was both timely and costly. They believed that the provision of bikes or motorcycles would help in accessing these harder to reach areas. Logistical challenges were particularly noted during the Ebola epidemic as meeting places where gCHVs could normally access large segments of the population to deliver interventions simultaneously were shut down or people were too afraid to attend. A clear example of this was the distribution by the NTD programme of antihelminth drugs in school which ceased as schools were closed during the outbreak.

Participants at the county level meeting felt that engagement of communities through social mobilisation was a key step in re-engaging their trust with the health system and health workers. Some participants suggested the use of radio as a key mechanism here, however others felt that these activities needed to take place at the community level and it was critical that they were sustained indefinitely. Participants felt that there were strong structures at the community level that they could work with to develop effective social mobilisation strategies. It was stressed that these type of activities have to come before (and not at the same time as) bringing of drugs or other interventions to the community. Participants felt that only with effective engagement from the beginning of a programme was trust likely to be continually rebuilt.

Prior to the Ebola outbreak the NTD programme had begun to make progress in effective community mobilisation regarding Mass Drug Administration and awareness raising about NTDs. Such activities had however been halted as a result of the Ebola epidemic. Participants felt that by re-establishing and evaluating strategies that were successful prior to the outbreak and making comparisons across disease programmes and the health sector, stronger creative

approaches could be generated. Participants also felt that lesson learning could be drawn from the large awareness campaign that had been implemented throughout the county in relation to Ebola.

4. National Meeting Summary

Leadership and Governance:

Participants discussed the importance for health research as a priority in rebuilding the health system in Liberia. As well as a demand for health research, emphasis was also placed on a need to work with policy makers and programme managers to understand how to use health research in decision making.

The co-ordinated response with other ministries and between divisions of the health sector in managing the Ebola response was seen as a key learning. Members of sectors represented felt that inter-sectoral working, for example collaboration between the Ministry of Education and the Ministry of Health, was important in moving the country forward and rebuilding systems post-Ebola. Participants felt this could be facilitated through more regular meeting and co-ordination amongst stakeholders.

Participants felt that during the Ebola outbreak there was often a lack of co-ordination of health staff at the county level and that strategies to improve this should be sought. It was often linked to poor retention of staff at decentralised levels. It was hypothesised that involvement of lower levels of the health system in planning may improve this and encourage better decentralised management.

Health Care Financing:

Participants felt that there was a lack of planning within county health team budgets and work plans for activities associated with vertical programmes, e.g. the NTD programme. They felt this presented an overreliance on Non-Governmental Organisations (NGOs) and external funding agencies to support activities associated with these programmes.

Health Workforce:

Lack of health staff preparedness and training was again cited as a problem at the national level. Participants felt there was a need for improved disease specific training as well as a need for improved continued professional development.

High fallout rates of staff from the Ministry of Health was seen as a critical problem with departments often being understaffed and staff in post being overburdened.

The importance of general community health volunteers (gCHVs) in the delivery of health interventions was discussed however it was thought that this often meant they were overburdened as they are heavily relied upon by all disease programmes. The reliance of the Ebola response on gCHVs for surveillance was only thought to have added to that burden. Participants felt that overburdening was often due to a lack of integrated management and supervision of gCHVs at the county level.

Medical Products/technologies:

Participants stated that there was currently poor quality of drug management at county and community levels. Transparent drug procurement, storage and monitoring was not thought to be in place.

Information and research:

The change in the disease landscape post-Ebola was thought to be problematic for planning. Many individuals felt that re-mapping of disease prevalence would be necessary post the Ebola epidemic as numerous diseases were likely to have faced set-backs in their control during the crisis. The NTD programme were a key example of this as mass drug administration had halted during the outbreak.

Lack of accurate information regarding population statistics meant that population denominators are often inconsistent making planning, monitoring and evaluation difficult.

Service Delivery:

Participants felt that the Ebola outbreak had emphasised the importance of disease dynamics between urban and rural settings. Members of the NTD programme felt that this was particularly relevant for NTD programme delivery, suggesting that further thinking was needed about how to adapt service delivery for different contexts.

Ebola was thought to have raised issues of stigma in service access which may be relevant to other disease programmes and the health system more generally in re-establishing service delivery. Similarly to at the county level, awareness amongst community members around manifestations and causes of disease were seen as critical. Furthermore, when interventions were being delivered at the community level understanding of the purpose of the intervention was paramount.

Summary Table of Discussion Points from the National and County Meetings

	Leadership and Governance	Health Care Financing	Health Workforce	Medical Products/Technologies	Information and Research	Service Delivery
National Level Meeting Key Discussion Points	Health research is a priority in re-building the health system with a focus on strengthening the capacity of decision makers to use health systems research in policy and planning. Explore the best ways to foster inter-sectoral working due to the effectiveness of such collaborations in managing the Ebola outbreak. Involvement of lower levels of the health system in planning is essential to improve better decentralised co-	Need better planning for the activities of vertical health programmes within county health budgets to reduce an overreliance on external funding.	Need for improved continued professional development and improved disease specific training for frontline health providers. Reduction in overburdening of MoH staff is necessary as well as improved staff retention strategies. Need better integrated management of gCHVs across health programmes to reduce overburdening.	Establishment of transparent drug procurement, storage and monitoring systems at the county and community level is required.	Re-mapping of disease prevalence is necessary post the Ebola epidemic as numerous diseases were likely to have faced set-backs in their control during the crisis. Need for accurate information regarding population statistics so that population denominators are in place for effective planning, monitoring and evaluation.	Lesson learning from Ebola stressed that increased thinking about the adaptation of service delivery in differing contexts (e.g. urban and rural) is necessary. Better health communication is needed at the community and county level to decrease stigma and increase awareness and uptake of services.

	ordination and management.					
	Leadership and Governance	**Health Care Financing**	**Health Workforce**	**Medical Products/Technologies**	**Information and Research**	**Service Delivery**
County Level Meeting Key Discussion Points	Need engagement of communities and counties in the planning for restoration of health systems. Health systems research needs to be prioritised to strengthen the health service. Need an improved strategy for the involvement of gCHVs within the health workforce with the aim of increasing recognition and standardisation	Need to ensure a rebalancing of resource allocation moving forward so that all services receive adequate financing not just those focusing on the Ebola response.	Continued professional development of health staff needs to be prioritised as well as improved basic training, particularly that which focuses on communicable disease. Need lesson learning around improved supervision of gCHVs during the Ebola outbreak. Need to understand the best ways to re-train large numbers of community drug	Focus on strengthening drug supply chain systems so that they are more resilient in times of crisis and stock-outs are reduced. Exploration of how best to sustain benefits to health system process and resources (e.g. protective clothing and triage points) is needed.	Updated facility catchment information as well as having more detailed statistics regarding the population and disease profile post Ebola is necessary. There is a need to establish more streamlined documents for health management information systems that are consistent across the health system and programmes.	Need to explore how trust can best be re-established between communities and the health system. Understand the best strategies for social mobilisation at the community level with focus on lesson learning from Ebola awareness campaigns. More creative solutions for accessing very remote and sprawling populations is necessary, as well as ensuring logistic support for

	across disease programmes.		distributors that were engaged prior to the Ebola outbreak. Overburdening of staff at the county level means there is a need for more robust mechanisms for staff motivation and retention, with particular focus on ensuring timely remuneration.			gCHVs when accessing these communities.

5. Health System Research Priorities

The following section focuses on health system research priorities that participants identified at both the county and national level meetings linked to each of the World Health Organisation (WHO) health system building blocks. Despite the use of the case study of the NTD programme throughout the meeting the majority of the research areas identified were general to the health system and are shown in section 5.1. More specific research areas for the NTD programme are highlighted in section 5.2.

5.1 General Health System Research Priorities

Leadership and Governance:

- To understand how capacity strengthening activities can be implemented with decision makers at the national level to ensure the use of evidence in policy and programme planning.
- To explore the best platforms for inter-sectoral working at all levels of the health system to ensure unified response and resource maximisation.
- To understand the best ways for staff retention, management and co-ordination at decentralised levels of the health system.
- To understand the most effective ways that counties and communities can be involved in planning for health systems re-development.
- To understand how general community health volunteers (gCHVs) can be managed more effectively as a key cadre of the health workforce.
- To explore how strategies can be developed to better co-ordinate gCHVs across disease programmes to minimise overburdening.

Health Care Financing:

- To identify ways that budgeting and planning at the county level can incorporate the activities of vertical programmes to reduce reliance on external funding and harmonise health system activities.
- To identify strategies to ensure balanced resource allocation across the health system, with a particular focus on how to ensure donors and other funding agencies invest in national priorities and systems strengthening as the country moves past the Ebola outbreak.

Health Workforce:

- To explore what strategies could be put in place to ensure continued professional development and on the job training of the health workforce to improve and maintain knowledge levels.
- To investigate how lesson learning from the Ebola outbreak around supervision and management of gCHVs can be harnessed and used in mainstream health systems activities to sustain large community coverage.
- To understand best practices for health worker motivation and retention at the ministry and county level in a time of staff shortages and overburdening. Particular focus could be placed on how to ensure fair and timely remuneration for staff.
- To understand how integrated management and supervision of gCHVs can be fostered to reduce overburdening.

Medical Products/Technologies:

- To explore what capacity strengthening activities are necessary to ensure a stronger drug supply chain to and within counties to ensure the availability of essential medicines within all facilities.
- To identify how effective systems for control of communicable disease outbreaks can be maintained within the health system.

Information and research:

- To understand how health monitoring and information systems can be streamlined and strengthened at the county level to make sure they are accessible to all and provide accurate information on health facility catchment populations.

Service Delivery:

- To explore how trust between the health system and communities can be re-established.
- To understand preferred ways for community engagement and social mobilisation and how this can be implemented and sustained at the community level.
- To develop unique strategies to access remote and sprawling communities and ensure logistical support is in place for such strategies so that gCHVs are supported and enabled in community level activities.
- To harness lesson learning from the Ebola awareness campaign about what methods of knowledge dissemination were most effective.
- To understand how community level service delivery needs to be modified in different contexts e.g. urban to rural to meet the differing population structures and needs.

5.2 Specific health system research priorities for the NTD programme

Leadership and Governance:

- To understand how the school system can be better involved in planning and implementation of drug campaigns that involve school aged children.

Health Workforce:

- To identify strategies of delineating responsibility to lower staff cadres to reduce overburdening of NTD focal points at the county level whilst reviewing the impact this will have on staff workloads at lower levels of the health system.
- To understand the training needs of health staff working on NTDs and how this can be provided and maintained.
- To explore how supervision of gCHVs and community drug distributors can be integrated with other disease programmes and the wider health system.

Service Delivery:

- To understand how best to improve community acceptance of community level drug delivery (e.g. Mass Drug Administration using praziquantel).
- To explore how best the community can be engaged in the management and delivery of the NTD programme, with a focus on the involvement of expert patients. To harness lesson learning from the use of Ebola survivors in awareness campaigns during the Ebola outbreak.
- To identify strategies to reach populations that are not present at existing drug delivery points e.g. out of school children, highly remote populations.

- To explore how myths, stigma and discrimination associated with NTDs can be tackled at the community level, harnessing the experience from the Ebola awareness campaign.

6. Key Outputs

The key outputs of the grant received from the thematic working group on fragile and conflict affected states are as follows:

- Two stakeholder consultation meetings, one at the county and one at the national level.
- A Blog: ‘No more room for excuses’: Building the health system in Sierra Leon after Ebola. Based on an interview with Haja Wurie facilitated through the grant.
- A blog is currently being drafted for health systems global that outlines the main findings presented in this report.
- This report is also being developed to publish as meeting proceedings in a relevant journal.

Annex One: Participants Lists

National Level Meeting

	Name	Title	Organization	Cell Number	E-Mail Address
1	Dr. Geetor S. Saydee	Professor	Institute of Population Studies/University of Liberia	0880552586	gssaydee@yahoo.com
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County Level Meeting

No	Name	Title	Organization	Cell Number	E-Mail Address
1	William S. Jah	Field Officer	Liberian National Red Cross	0886462754	William.jah@liberian_redcross.org
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3	Robert D. Matthews	Community Health Volunteers	Lloydsville Community	0770284259	
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5	Ousman Ansu	Imam	Muslim	0886445346	ousmanansu@gmail.com
6	Cellian Fahncole	Officer in-Charge	Well Baby Clinic	0880671333	
7	Robert K. Flomo Jr.	Pastor	Methodist	0775009148	
8	Paul K. Gueh	Community Health Volunteers	Old Field Community	0777853914	
9	Gift M. Togba	Officer in-Charge	Edina Clinic	0886677832	
10	Cleopatra Kollie	District Surveillance Officer	Buchanan District	0886423578	kolliecleopatra@gmail.com
11	Gabrial Sesay	County Data Officer	Bassa County Health Team	0886742157	gibrilsles@hotmail.com
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13	Stephen E. James	Community Health Dept. Director	Bassa County Health Team	0886543113	jstephen428@yahoo.com
14	T. Gennevie Hiltar	IPC Coordinator	WHO	0770253890	hgennevie@gmail.com
15	Victor C. Nadoue	District Health Officer	Bassa County Health Team	0770193329	victornadoue@hotmail.com
16	Emeka Agbo	Coordinator	WHO	0770496208	eagbo163@gmail.com
17	Isaac D. Bartune	District Health Officer	Concern worldwide	0886436814	Isaac.bartune@concern.net

18	Jimmy T. Yeamie	District Health Officer	Bassa County Health Team	0886691193	jyeamie@yahoo.com
19	John Gayeman	Zone Leader	Buchanan	0777831380	
20	Minni e Wah	Coordinator	MOH		Minwah06468838@yahoo.com
21	Jonathan Willie	NTDs Driver	MOH	0886843923	
22	Anthony K. Bettee	Oncho Coordinator	MOH	0886539548	tbettee@yahoo.com

Annex Two:

Agenda County Level Meeting

Wednesday 28, October 2015		
Time	**Session/topic**	**Chair/Speaker/Participants**
09:00	**Opening Prayer**	Grand Bassa County Health Team
09:05	**Self Introduction**	**ALL**
09:05-09:20	*Objectives of the Stakeholders Meeting*	Anthony K. Bettee, Onchocerciasis Coordinator
09:20-10:20	*Overview of NTDs Program*	Anthony K. Bettee, Onchocerciasis Coordinator
10:20-10:35	**Coffee Break**	**ALL**
10:35-11:15	The impact of Ebola on community health programme.	Grand Bassa County Health Team
11:15-11:55	Community perceptions of the health system following Ebola.	*Community Leader*
11:55-12:20	*An Interview with Haja Wurie: Perspectives from Sierra Leone*	*ALL*
12:20-01:00	**Lunch Break**	
01:00-02:20	**Break out groups**	**Panel Chair:** Anthony K. Bettee/Emerson Roger
02:20-03:20	*Feedback to the plenary/panel for further discussion and agenda setting*	ALL
03:20-03:40	*Discussion*	ALL

03:40-04:00	*Recommendation*	ALL
04:00-04:10	*Closing Prayer*	ALL

Agenda National Level Meeting

Wednesday November 11, 2015		
Time	**Session/topic**	**Chair/Speaker/Participants**
09:00	**Opening Prayer**	Volunteer
09:05	**Self Introduction**	**ALL**
09:05-09:20	*Objectives of the Stakeholders Meeting*	Anthony K. Bettee, Onchocerciasis Coordinator
09:20-10:20	Overview of NTDs Programme, and the impact of Ebola on NTD control, other preventative health programmes and the wider health system.	Karsor K. Kollie, NTDs/NCDs Program Director
10:20-10:30	Discussion	ALL
10:30-10:50	**Coffee Break**	**ALL**
10:50 -11:15	Discussion	ALL
11:15-11:55	The way forward for health research in Liberia following the Ebola outbreak.	Research Unit

11:55-12:05	Discussion	
12:05-1:100	**Break out groups**	**Panel Chair:** Karsor
1:00-2:00	**LUNCH**	**ALL**
2:00-2:40	*Feedback to the plenary/panel for further discussion and agenda setting*	ALL
2:40-3:00	*Discussion*	ALL
3:00-3:20	*Recommendation*	ALL
3:20-03:03:30	*Closing Prayer*	ALL

Annex 3: ‘No more room for excuses’: Building the health system in Sierra Leone after Ebola

By Laura Dean (and Haja Wurie)

In preparation for our stakeholder meeting in Liberia detailed in our previous blog I spent some time interviewing Haja Wurie. Haja is based at the College of Medicine and Allied Health Sciences in Sierra Leone and works as part of the ReBUILD Consortium focusing on health systems research in post-conflict countries. Interviewing Haja, allowed time for reflection on the impact Ebola has had in Sierra Leone and enabled us to begin to strategize how best to move forward to build back more ‘responsive and resilient’ health systems. The interview will be used at our stakeholder meeting in Liberia to spark debate and encourage cross-country lesson learning.

The impact of Ebola in Sierra Leone

Haja believes that Ebola has exposed weaknesses across all pillars of the health system from service delivery to human resources for health and beyond. Haja describes the health workforce as ‘victims’ both during the conflict in Sierra Leone and during the Ebola crisis. During conflict health workers were targets of kidnap, and during Ebola they have become targets of a virus which they were ill-equipped to avoid due to lack of training and resources, at the onset of the outbreak. Ebola has impacted on health programmes through a decrease in service use because of mistrust and fear between service users and providers. Where vertical programmes, such as the Neglected Tropical Disease programme, had begun to establish themselves, Ebola has resulted in them taking ‘three steps back’. Haja believes there is ‘no more time for excuses’ and we need to address the systemic problems that allowed such a crisis to develop. There is a need for the health system to be prepared as future outbreaks of Ebola are likely once one has already occurred.

Building back better: What’s next for Sierra Leone’s health system?

Haja believes that we have to look toward strengthening all six pillars of the health system simultaneously to be able to build back better. It is too simplistic to argue for better training of staff or more available equipment without looking at all underlying factors that caused weaknesses in the system. For example, instigating infection prevention and control training is unlikely to be effective when most health workers are in facilities where there is no running water or electricity. Just as it is unproductive to have numerous donors and NGOs operating in an uncoordinated manner. So we need to think about how we strengthen systems in a holistic and unified way at a pace where no building blocks are left behind. This can be a hard thing to swallow as an academic with your own personal research interests in a specific disease area, or as the implementer of a vertical programme only concerned with a particular disease. The reality however is that unless we all start to think about the health system as a whole we are unlikely to be able to respond in a resilient manner to crisis.

What does building back better really look like?

Rebuilding trust between the health system and the communities which it is designed to serve is a critical first step in moving forward from Ebola. Haja believes that health education and health promotion are a crucial and that close-to-community providers play an essential role in their delivery. The Ebola crisis meant that there were travel restrictions within affected countries, as a result close-to-community providers had to be selected from within communities to ensure that health services did not cease altogether. Haja believes that it is these very close-to-community providers that present an opportunity for rebuilding trust. As 'sons of soil', they are trusted by their communities and the messages they share are respected. Driven by willingness and pride, often supported by minimal incentives (~three dollars every three months for community health workers), it is critical that community health workers are well supported by the health system they are serving.

Vertical disease programmes, such as those for the control of neglected tropical disease are essential health services. However strengthening them in isolation from the rest of the system is unlikely to contribute to a stronger health system. Through the delivery of essential health services vertical health programmes present a potential platform to strengthen another elements of health care. These health programmes should therefore look at ways to support and strengthen human resources for health through the cadre of community health workers and integrate this within their programmes. Vertical programmes could then promote co-ordination between strengthening building blocks and avoid contributing to fragmentation.

Internationally there is the scope for learning between all Ebola affected countries, specifically, Liberia, Guinea and Sierra Leone. Haja believes in the recent crisis, opportunities were missed to learn from systems in place in Uganda and this should not continue in rebuilding the health system. Countries have the opportunity to share their post-crisis action plans and ideas regarding their implementation. National ownership of health system strengthening is critical however, and it is essential that countries are given the opportunity to work together to harness donors to provide strategic support that is in line with nationally identified action plans building on countries strengths and developing their weaknesses.

Finally, Haja believes that health systems research is critical, but it has to be context relevant and led from within. There needs to be national ownership of research that incorporates community (service users and service providers) voices. Health systems research needs to be co-ordinated and directed in collaboration between policy makers, academics and health staff to ensure successful policy generation and implementation. It should not only focus on issues directly related to Ebola but explore issues across all sectors and all levels of the health system.

As I embark on a new area of research in an Ebola affected country, I will continue to ask myself; how can our research contribute to a stronger health system so that we build back better?

Annex Four: Photographs of Meetings

Figure 1: Main Session at National Meeting

Figure 2: Group Sessions at National Level Meeting

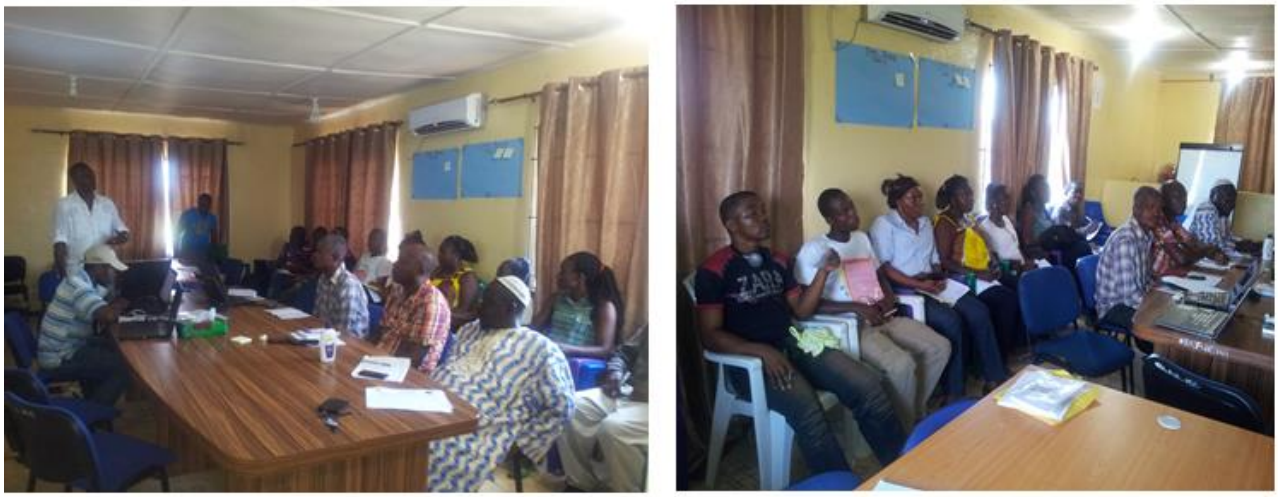

Figure 3: Main Session at County Level Meeting

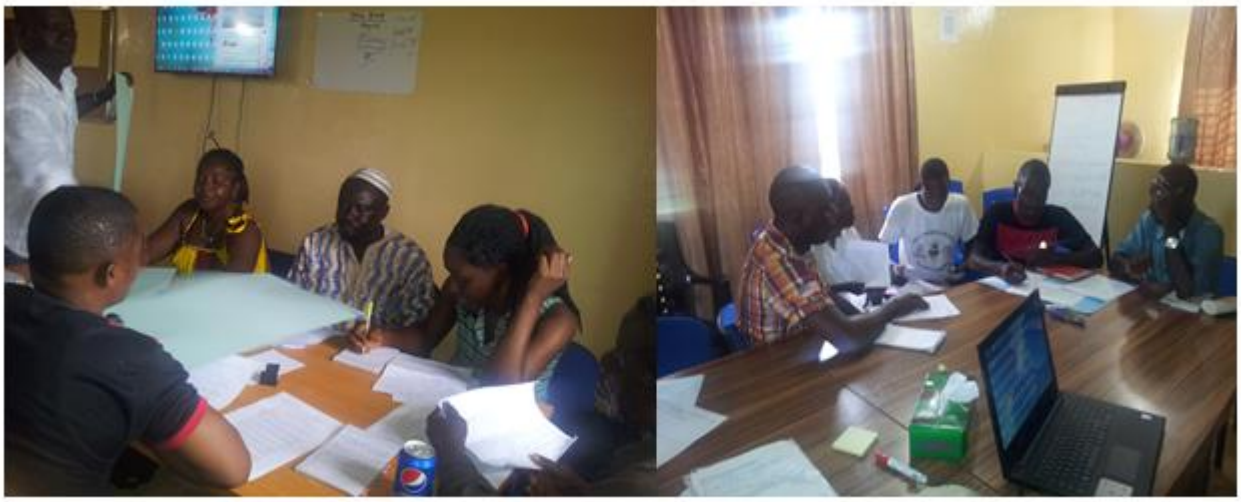

Figure 4: Group Sessions at County Level Meeting